

MAY 15.

YEAR, 1914

The AMERICAN DENTAL JOURNAL

BERNARD J. CIGRAND, M. S., D. D. S.

Editor Publisher Proprietor.

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May 15

EDITORIAL AND COMMENT

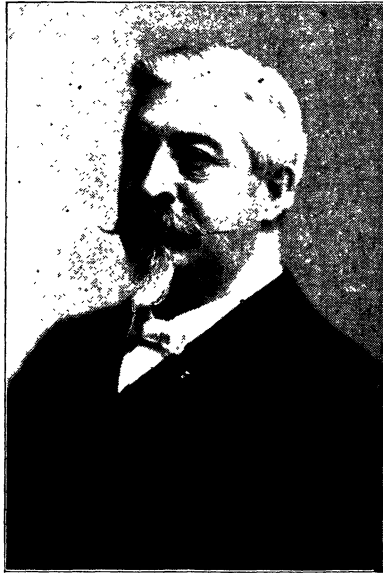
1914

MEMORIAL DAY AND DENTAL PRACTITIONERS

A new and broad-minded Memorial day is upon us. Observation day it might possibly now be called. Or perhaps a more expressive description of it would be to define it as the "Philadelphia idea" of commemorating by floral tributes, orations and flag displays the memory of not alone the heroes of the civil war, but of all the soldiers of all the national wars of our country. In fact, the graves of not only the soldiers of those wars, but of the distinguished statesmen as well, who either championed or directed the battles from homestead or legislative halls, should be remembered.

The dental profession has done nothing to recognize the patriotism of its practitioners. No monument is reared to commemorate its own heroes and patriots. A score or more dentists became famous in our several wars, and the new memorial idea

will make it possible to pay tribute to our own dead. This broad-minded conception of the real underlying principle of inculcating patriotism by rendering tokens of respect at the local shrines of heroism, and contributing visual and auditory comfort at the graves of brave men of field and legislation at the same time, has awakened the attention of Boston, New York, Chicago and other municipalities, and even of quiet hamlets.

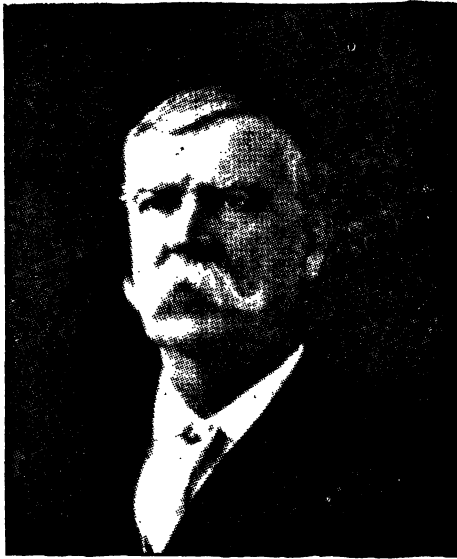


COL. E. D. SWAIN

There seemed an element of unfairness, or an unconscious attempt at discrimination, against the truly great and heroic of other wars in the existing custom. It appeared to those who were eager to do the logical and proper thing that while it was a splendid custom to shower these wreaths upon the graves of civil war soldiers, it resembled ingratitude to pass by the graves of the soldiers of the Mexican war, the war of 1812, the American revolution and the Spanish-American war. It certainly would seem inappropriate not to throw a "forget-me-not" upon

the graves of the seventeen heroes who but recently gave up their last full measure of devotion to "Old Glory" in the present Mexican trouble.

Philadelphia has for the last few years arranged to pay universal homage to the sacrifices of all patriots of all national wars; and it has been observed that, aside from the spirit of fairness and equity involved in so liberal and broad-minded a



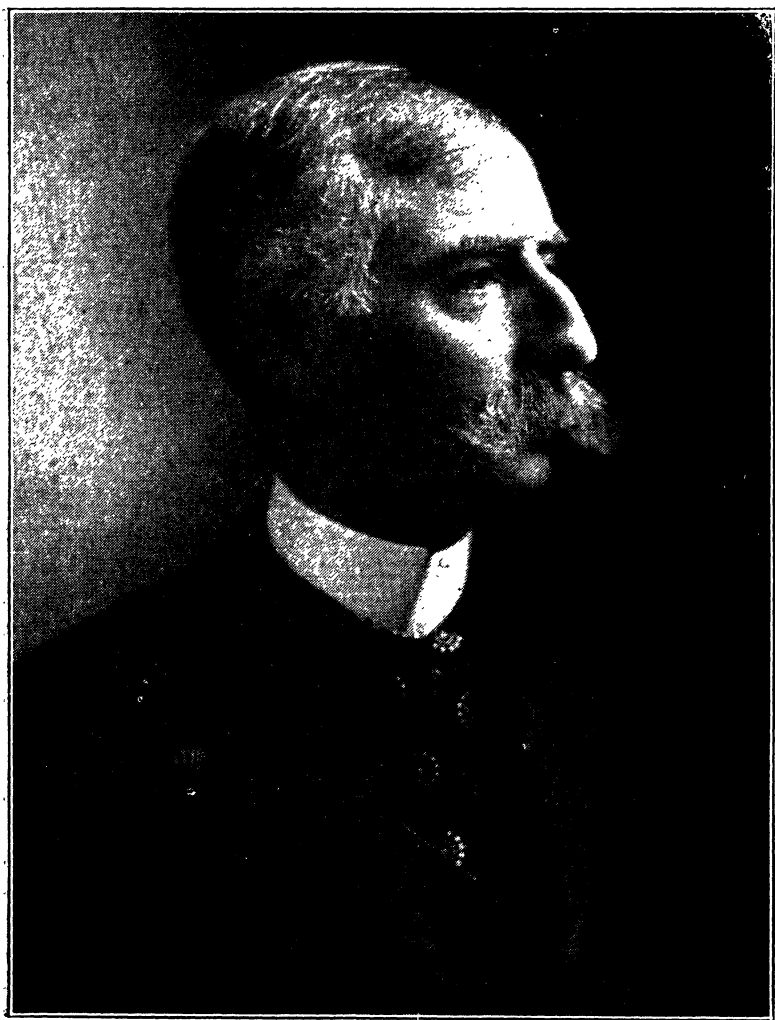
James M. Mance

holiday, the practice of it had a widening and all-embracing influence. By so enlarged a policy the living who had ancestors or relatives in any war within our national history were induced to respond to the idea of rendering tributes to these dead; and hence a far-reaching sympathy for the day was created, which ramified into thousands of homes and brought new recruits of worshipers to the cemeteries in every section of the country. These people brought their friends, and by such an observance

the holiday has become fully tripled in the number of people who are induced to close business and assemble in halls or visit cemeteries on May 30th.

The "Philadelphia idea" is attractive to all who are eager that devotion to American principles—in all times of war, at least—shall constitute sufficient merit to deserve consideration at the grave. There were those originally who opposed the "Philadelphia idea" on the ground that only those who were actually killed in the civil war were entitled to memorial services. But this was found to make the number of graves rather few, and later the idea that all civil war veterans who had given actual service, whether they died on fields of battle or later, were equally entitled to reverence, was adopted. Still later the services grew to include the graves of distinguished civil war statesmen, and thus made it possible for the tomb of Lincoln, who was neither a soldier of the civil war nor killed by an opposing army, to be buried beneath flowers and flags. Hence memorial services now include the decoration of the graves of not only Abraham Lincoln, the moving spirit of the civil war, but of Douglas, Stanton, Phillips, Garrison, Beecher, Mrs. Ward and thousands of others who were not of the army, nor even of the legislative halls. Gradually the living have become reconciled to the idea that even in times of war men and women can in a peaceable and non militant way serve a great cause and deserve to be placed in the niche of fame.

As a part of this inclusive, far-reaching idea the impulse to honor benefactors and public servants of various kinds has taken full possession of the people, and in Philadelphia none will receive higher tributes of flowers and eloquence than two men who were neither in the army of the revolution nor martyrs to any cause. These immortals are Benjamin Franklin and Robert Morris, both of whom are sleeping in the heart of Philadelphia—in Christ Church cemetery. Close to them also rests another—a signer of the Declaration of Independence—Dr. Benjamin Rush. Wreaths and flags will cover these sacred dead, and a new and broad and liberal memorial service will have done its glorious work.



DR. C. C. CHITTENDEN

Men of our profession have been active in all American wars, and it would surprise the readers to have their names enumerated, and it would cause wonder if their heroic deeds were recited.

Next year THE AMERICAN DENTAL JOURNAL will publish a memorial edition, and in order that it may be elaborate, both in story and picture, I ask that you send me portraits or sketches of dentists who were in any war of the United States. Also supply this journal with a brief sketch of their service. It is the purpose of this periodical to assist in giving our profession a higher and broader civic standing, and to that end it has for the past five years rendered to its readers a vast amount of reading matter calculated to impress the public with our profession—broad and not narrow view of dentists' service. Besides this policy, THE AMERICAN DENTAL JOURNAL inculcates a spirit of pride in the dentist, and awakens in each reader the love to serve the community in which he lives; and without this latter element in the dentist's career he is not living up to the highest ideals of citizenship.

The past year has taken these eminent practitioners to their final reward. They were soldiers of merit: Assistant Hospital Surgeon John W. Moffitt, Thomas W. Clements, Sergt. A. H. Fuller, S. B. Prevost, W. L. Bridwell, Thomas Weston Pritchett, Wilbur F. Litch and Gen. Vines E. Turner.

Among the civil war soldiers who distinguished themselves and whose graves deserve decoration with flags are: Capt. J. J. R. Patrick, Surgeon W. Varney, Capt. Joseph Morgan, Quartermaster George Fish Keesee, Capt. Robert Rollins Andrews, Maj. Gen. Richard B. Winder, Sergt. Theodore F. Chupein, Chief Drummer "Charlie" C. Chittenden, Richard C. Mackall, Contract Surgeon Homer Judd, Col. Edgar D. Swain and Adj. Gen. H. J. McKellops.

The following dentists were civil war soldiers, and they are still living (God bless them!): Lieut. Reuben Neal Lawrence, Sergt. G. V. Black, Col. Charles R. E. Koch, Chief Musician Rollin Breed Tuller, Charles Barnes, Laird Wilson Nevins, Chief Trumpeter Walter H. Jackson, Lieut. Thomas

Gates Rix, Adj. Gen. George Hart Brown and James McManus.

The following dentists, who distinguished themselves not on fields of battle, but in the laboratory and library, and who have gone to their reward, deserve to be included in this memorial edition: Dr. John N. Crouse, Dr. F. J. S. Gorgas, Dr. George W. Cook, Dr. Rudolph Beck, Dr. Alton Howard Thompson, Dr. M. H. Fletcher and Dr. Charles A. Meeker.

Remarkable Coincidences

Dr. and Mrs. E. G. Douglass, of Lapeer, Mich., died at their home on Monroe street within a few hours of each other recently. Mrs. Douglass was sick about a week, but Dr. Douglass was in fair health. He was told that his wife would die, and he died that night at 12:10 from the shock. Mrs. Douglass died at 4 A. M.

Dr. Douglass has been a dentist in Lapeer for forty-five years. Their only son, Elton, died on New Year's morning two years ago, and an adopted son, Justine White, was drowned in the Saginaw river eight years ago New Year's morning. Dr. Douglass was 74 and Mrs. Douglass 69.

Damages for a Lost Jaw

Elizabeth Nemanich, 18, has been awarded \$3,050 damages in the Circuit Court at Joliet, Ill., for the loss of her lower jaw from the disease known as "phossy jaw," contracted in the plant of the National Match Company two years ago. The girl suffered intense agony until all the diseased bone tissue was removed by an operation from her face and a metal jaw was substituted. Since the passage of the federal statute prohibiting the use of phosphorus in the manufacture of matches this disease has been eliminated from the ranks of the match workers, but previously it was a menace to everyone connected with the industry. In the case referred to the company has agreed to pay the amount named in the verdict and the case will not be appealed.

THE AMERICAN DENTAL JOURNAL—One Year for One Dollar

ORIGINAL CONTRIBUTIONS

RADIUM, THE MAGIC METAL

BY PRISCILLA LEONARD

[Dentistry is receiving wonderful aid by the employment of radium. Every day is adding new discoveries to its use and value. Both as an illuminator and a tonic we are becoming more convinced of its remarkable elements. It seems a strange story that so few people know nothing of its discovery; that they are uninformed as to the labor rendered by a woman; how she encouraged a researching husband, and how the world now actually owes her its heartiest gratitude. Read this fascinating story.—EDITOR.]

The inventor of dynamite, the late Alfred Nobel, of Sweden, left nearly ten millions of dollars, his whole fortune, as a great prize fund. The interest of it every year is divided among the five persons who have made the most important discoveries or done the best work for the world during the twelve months.

Last year one of these great prizes was divided among the discoverers of radio-active substances; and two-thirds of it went to a woman and her husband, who together have made the most wonderful discovery in physical science that this generation has known.

The X-ray won the Nobel prize, and the X-ray was, indeed, marvelous enough. But Mme. Sklodowska Curie, with her new metal, radium, has gone far beyond Professor Roentgen. With but a tablespoonful of white powder to show as the result of seven years of work, she has turned the whole scientific world upside down, and "given a vivid new start to our views as to the constitution of matter," as Sir William Crookes puts it.

"The new Aladdin's lamp," "the modern philosopher's stone," "the wizard metal," are some of the names given to radium, and no wonder! The new metal glows of itself with a continual soft brilliance; it produces enough heat continually to melt its own weight in ice every hour; it can send its rays

through a sheet of iron a foot thick; it can be seen by the blind; it has cured cancer; it kills bacteria; and, most wonderful of all, wood, lead, glass and dozens of other substances, placed near it, can receive and use its qualities.

An old shoe, a glass tumbler from the laboratory where the Curies make their experiments, can be used with exactly the same effects as the magic powder to which they have been exposed, and the virtues of which have literally passed into them. The very walls of the laboratory glow softly at night with the wizard radiance of radium, whose name expresses its nature and properties. Light-bearing, light-giving, it adds the last touch to its mysteries by shining without apparent waste or decay.

A GAME OF HIDE-AND-SEEK

In a thousand million years, Professor Curie says, radium, although sending out light and heat without cessation, will not lose a millionth part of its bulk. Here, it seems, is perpetual motion in full play at last.

Why has this miraculous metal not been discovered long ago? The answer is interesting. The story of radium is a story of scientific hide-and-seek

For several years "radio-activity" has been suspected to exist in various metals. Uranium, discovered in 1789, at about the same time as the planet Uranus, and named after it, has been under suspicion of having queer "rays" of its own for some time past. Professor Becquerel, of Paris, proved the fact at last by taking a photograph of a key with it, something on the X-ray manner. But that was all that he found out about it.

Madame Curie, an enthusiastic worker, followed the trail farther, taking up, all by herself, in 1897, the study of the various minerals in which uranium is found. She was a young Polish student of chemistry in the Latin Quarter of Paris before her marriage with Professor Curie.

She was very poor but very talented, and of that "infinite capacity for taking pains" which is one definition of genius. When she began the series of experiments which have made her famous she had before her a task so difficult and delicate

that only a rare perseverance like hers could have carried it through.

Uraium is found in pitchblende, and pitchblende has been called "a perfect museum of chemical rarities," for it contains twenty or thirty different elements, combined in all sorts of ways. It is a velvety black mineral, found only in out-of-the-way places, such as the Hartz Mountains, Bohemia and Cornwall.

Madame Curie had no sooner begun to work upon it than she met a fact that set her thinking. This fact was that after uranium was taken out of pitchblende the remainder had more light-giving power than uranium had. Madame Curie said nothing to anybody; but she dropped uranium and began hunting for the something else, whatever it was, that existed in the refuse ore of the uranium works. This ore was considered entirely worthless, so she was able to get as much as she wanted. Otherwise the Curies, being poor, radium might never have been discovered.

MADAME CURIE'S GREAT TASK

Some one has compared Madame Curie's task to that of a detective who starts out to find a suspected criminal, whom he has never seen, in a crowded street. One property, that of radio-activity, was all by which she could recognize the unknown element for which she was searching.

She found two new elements, and being a patriot, named one of them "polonium," for Poland, because it seemed promising to her. But in reality the other one, which at first she could not get enough of to try experiments with, was the thing she was looking for—the great discovery of her life.

By this time she had drawn her husband into the search, and they worked on together.

It took four years of patient labor before enough traces of radium could be found really to show its properties and be recognized at all.

But that something marvelous was there, producing those traces, became evident; and the Institute of France granted twenty thousand francs to the searchers for further experiments, while a Paris chemical factory consented to work the ore for

them on a large scale. Seven tons of ore were treated, and the processes took two years.

The Curies left the early stages to the factory; but when the radium was extracted to an intensity of two thousand, they took it themselves, for fear of waste, and then brought it up to intensities of from fifty thousand to one million five hundred thousand, through crystallization after crystallization.

Even then they did not get pure radium—only radium chlorid. In the two years, out of the seven tons, they extracted just one salt-spoonful. Surely, the world has never known a finer bit of scientific patience than this.

But that salt spoonful! When it began to show what it could do it repaid all labors. A single gram of it had "energy enough to lift five hundred tons a mile high." It gave out three kinds of rays, and an "emanation" besides, all of wonderful properties.

Oliver Wendell Holmes once wondered, in his genial way, "how soon he would be able to buy a pint of horse-power at the corner grocery."

Now

A pint's a pound
All the world round;

and a pound of radium, although it would cost the "Autocrat of the Breakfast-Table" several thousand times its weight in gold, would more than realize his desire.

But it would have one drawback—he could not carry it home, or even enter the room where it was kept, under pain of death. Professor Curie says that to go into the same room with a pound of radium would be extremely dangerous. It would burn off all the skin, destroy the eyesight, and probably death would ensue within a few days. Yet, on the other hand, a pinch of the same magic powder in a glass tube laid for a few minutes a day in contact with a cancerous growth has removed all traces of it in a few weeks; pressed to the eyelid or temple of a man blind from cataract, it will give him the sensation of a flash of light, as if the sun had suddenly penetrated his darkness.

There is not a pound of radium at present in all the world.

Perhaps there never will be. It would be worth three and one-half million dollars. So far there has been produced altogether one tablespoonful, not pure, but of varying intensities.

And even with only a tablespoonful of it to explain, science is puzzled. All sorts of theories have to be thrown away, and all sorts of new and strange ones are advanced to account for radium. At first it was thought that it upset the fundamental doctrine of the "conservation of energy" by giving out power all the while, yet never losing. But as the experimenting has gone on other views have been formed, and science has begun to formulate the reasons of radium. Here they are:

LIKE A BULLET THROUGH A HEDGE

The smallest division of matter, as science knows it, is the atom. Atoms are inconceivably small. No microscope can hope to find them. They have been considered unchangeable. But the only explanation that fits the mysteries of radium is that the radium atom (which happens to be one of the largest known, with an atomic weight of two hundred and twenty-five) is continually disintegrating, and sending out from itself a shower of infinitely tiny particles, or *electrons*, which fly in every direction, "like red-hot stones from a volcano." Professor Rutherford computes that they are shot off at a speed of one hundred and thirty thousand miles a second.

Being so infinitely tiny and going so fast, nothing can stop them. They can glide between the particles of iron or wood "like a Mauser bullet through quickset hedge." Human flesh offers no resistance to their passage, but is hurt by them in proportion to their number and intensity.

To prove all this, a very simple experiment is shown by Sir William Crookes, the great English scientist. He has devised a "spintariscope," or tiny microscope, that allows one to look at a minute bit of radium—one-twentieth of a milligram—supported on a little wire over a prepared zinc screen, in a dark room. The radium is seen to throw out continuously what looks like a fire shower of blazing stars, striking the screen in a dazzling rush. It resembles a November shower of shooting stars within the space of a two-cent piece.



MADAME CURIE

Scientists divide the rays into three kinds, the Alpha, the Beta and the Gamma. They have different qualities, and are thrown off from the parent metal at different velocities. One sort carries a negative charge of electricity, another a positive charge, and the third is not electrically charged at all, but the activity of all continues unabated in any temperature, from red heat to nearly absolute zero.

"A BIT OF THE SUN"

Of course these rays can not be shot forth quite forever. Radium is "undergoing sentence of slow dissolution," as one scientist puts in. But it has been thus dissolving since the creation, and some of it is still left. Some think that radium is "a bit of the sun imprisoned on the earth," and that there may have been a great deal of radium in the world when it was made, while the sun may still have a great quantity of this metal in it, thus accounting for its radiant energy. When the solar radium runs out, the sun, like the moon, may become cold and dead.

[To be continued.]

PECULIARITIES OF METALS

BY WILLIAM TAYLOR

[To the dentist who is keenly alive to the interests of his laboratory, and who is aware that chemistry is the storehouse of wonder secrets, this article will be most instructive and interesting.—EDITOR.]

ODOR OF BRASS

Brass, as everyone knows, has an awful odor; yet the two things of which brass consists—zinc and copper—give no odor whatever in their separate states. This is a problem that has given a great deal of work to scientists. It is one as yet not entirely solved.

To arrive at the general law, it has been found that almost all alloys, or mixtures of two metals, will give an odor, while the metals themselves do not. Brass is not the single example, though probably the most odoriferous.

The explanation is as follows: All substances, including

metals, are always giving off small particles of their substance to the air—that is, evaporating. Some solids give these off so rapidly as soon to disappear. Gum camphor is a conspicuous example. To smell any substance a particle of that substance has to tickle a nerve ending in the nose. If a small particle of copper, we shall say, does this by itself, no effect is noticed. But if a particle of zinc and a particle of copper strike at the same time, the effect is such as to cause a perceptible impulse to the nerve. The chance for these two to strike at the same time is given only when they are intimately mixed in an alloy.

ODD WAY TO MAKE STEEL RODS

There is employed in Great Britain a comparatively new process of making bars of steel and other metal. This process consists in heating metal until it becomes plastic, and then forcing it, with the aid of a hydraulic ram, from the compressing cylinder through a die. It issues from the die in the form of a rod, like sausage from a sausage machine. The rods are round, square or hexagonal, according to the shape of the die, and it is said that they possess greater tensile strength than rolled bars of equal size. Wire so small that it weighs only $\frac{1}{100}$ of a pound to the foot in length, as well as heavy bars, are produced in this way.

NEW USE FOR ALUMINUM

With a pencil of aluminum indelible characters may be written or drawn on glass or porcelain, and when treated with hydrochloric acid the surface covered by the characters becomes etched. When the characters are not etched, but simply burnished, they exactly resemble inlaid silver. This property of aluminum was discovered by a Swiss scientist.

It is indispensable first to remove every trace of grease from the surface to be ornamented by polishing with chalk, else the aluminum will not take hold. Since the effect is produced only on substances containing silicic acid, it has been suggested that an aluminum pencil would be an unerring detector of false diamonds. Magnesium, cadmium and zinc act in a similar manner; but their traces readily oxidize.

IRON-BEARING PLANTS

Experiments are under way at the agricultural bacterio-

logical station at Vienna to increase the quantity of iron carried in certain plants, with a view to the effect on the human system when those plants are used as food. Artificially prepared foods containing iron do not always produce the desired effect, because the iron is not completely assimilated.

This difficulty, it is thought, may be avoided by causing plants to take up an increased quantity of iron during their natural growth. By adding hydrate of iron to the soil in which it was growing the experimenters have succeeded in producing spinach containing a percentage of iron seven times as great as that found in ordinary spinach. It is believed that the process will prove successful with other ferruginous plants.

THORIUM

French inventions frequently call into use natural products that had previously possessed no practical value. This is illustrated by the rare metal thorium, discovered by the great chemist Berzelius early in the last century. When burned the metal emits a light more brilliant than that of burning magnesium; but until the invention of incandescent gas burners, in which the flame is encased in a metallic mantle, no use was discovered for it.

Upon experimenting with various substances it was found that the oxide of thorium, called thoria, makes a good mantle for such burners, and, a demand being thus created for it, the value of thoria sprang from almost nothing up to \$250 a pound. Then a search began for new sources from which thoria could be obtained, and this search is not yet finished.

Originally the metal was found only in rare minerals in Norway. About ten years ago, however, it was discovered that the mineral monazite contains a liberal amount of thoria, and monazite is found in North Carolina, Canada and Brazil. The price of thoria is now much lower than it was at first, although it still commands \$15 or \$20—and even more—a pound, the price fluctuating with the supply.

SAVING PLATINUM

The increasing demand for platinum, particularly for use in the manufacture of dental materials, has led to the invention

of a process of saving the fine powdery grains of this metal found in the gold placer deposits of southern Oregon and elsewhere.

The platinum, being in a state of very fine division, almost in the form of dust, will not settle in a placer sluice so long as the water is briskly stirred. After the metal-bearing water has passed over a riffle table, on which nearly all the gold settles, it is drawn more slowly over a cocoa mat riffle, on which the platinum settles, and is then collected by rinsing the mats over tanks. Formerly the platinum was all wasted—first because its identity was not recognized, and afterward because no process was then known for saving it.

[To be continued.]

THIS JOURNAL RECEIVES HONORS

At the recent meeting of the Dutch dental societies the Societe Belge de Stomatologie recommended the following as the most progressive dental periodicals.

Of the eighteen published in the United States, THE AMERICAN DENTAL JOURNAL is one of the four which were accepted as the leading dental journals. The list, which will be of service to all students and practitioners, and is given in the interest of advanced dental art and science, is as follows:

AUSTRALIA—

The Australian Journal of Dentistry.

AUSTRIA—

Oesterrichische Zeitschrift fur Stomatologie.

Oester.-Ungar. Vierteljahrsschrift fur Zahnheilkunde.

Ash's Wiener Vierteljahrs-Fachblatt.

BELGIUM—

Revue trim. belge de Stomatologie.

Annales belges de Stomatologie.

Le Journal dentaire belge.

Bulletin de l'Academie de Medecine de Belgique.

La Clinique.

La Belgique medicale.

La Presse medicale belge.

La Progres medical belge.

Annales de l'Institut chirurgical de Bruxelles:

Annales de la Societie de medecine d'Anvers.

BRAZIL—

Revista dentaria Brasileira.

BULGARIA—

Letopissi (Annales medicales).

COLOMBIA—

La Odontologica Colombiana.

Revista Odontologica.

CUBA—

Revista Dental.

DENMARK—

Tandlaegtidende.

ENGLAND—

Dental Surgeon.

British Journal of Dental Science.

Dental Record.

Ash's Monthly.

The Mouth Mirror.

FRANCE—

La Revue de Stomatologie.

Bulletin du Syndicat des Stomatologistes francais.

Le Laboratoire et le Progres dentaire reunis.

L'Odontologie.

La Province dentaire.

Le Monde dentaire.

Bulletin du Syndicat des Chirurgiens-dentists de France.

GERMANY—

Deutsche Zahnaerztliche Zeitung.

Deutsche Zahnaerztliche Wochenschrift.

Zahnaerztliche Rundschau.

Zahntechnische Wochenschrift.

Archiv fur Zahnheilkunde.

Zeitschrift fur Zahnarztliche Orthopedie.

Correspondenzblatt fur Zahnaerzte.

HOLLAND—

Tijdschrift voor Tandheelkunde.

HUNGARY—

Stomatologiai Kozlony.

Fogorvosi Szemle.

ITALY—

La Stomatologia.

Rivista Stomatologica.

Rivista trimestrale di Odontojatria e protesi dentale.

L'Odonto-Stomatologia.

Rivista Italiana di Odontojatria.

MEXICO—

Odontologia Mexicana.
Revista Odontologica.

NORWAY—

Den norke tandlaege Tidende.

NEW ZEALAND—

The New Zealand Dental Journal.

POLAND—

Kronika Dentystyczna.

RUSSIA—

Subowratschebny Wiestnik.

SPAIN—

La Odontologia.
Meriatria.

SWEDEN—

Svensk Tandlakare Tidskrift.
Odontologisk Tidskrift.

SWITZERLAND—

Revue trim. suisse d'Odontologie.

UNITED STATES (AMERICA)—

Dental Cosmos, Philadelphia, Pa.
Dental Review, Chicago, Ill.
Items of Interest, New York City.
THE AMERICAN DENTAL JOURNAL, Batavia, Ill.

From Brazil comes the following good letter from the secretary and editor of the *Revista Dentaria Brasileira*:

S. PAULO, BRAZIL, February 24, 1914.

DEAR EDITOR CIGRAND: As secretary of the Brazilian Dental Association I am instructed to ask you to kindly send THE AMERICAN DENTAL JOURNAL to our library. You would be rendering a valuable service, as we would find much pleasure and profit in reading your good journal. DARIO CALDAS.

From Dr. Waldo E. Boardman, of Boston, comes this letter:
Harvard University Dental School wishes THE AMERICAN DENTAL JOURNAL. Its complete editions from the first copy will be appreciated in our reference library.

Many of the subscribers are sending in the names of prospective dental students. The publisher will credit you with 25 cents for each name, and this will admit of your paying a year's subscription to THE AMERICAN DENTAL JOURNAL.

THOSE GILDED TEETH

BY DR. BERNARD J. CIGRAND

[This poem, published in the Memorial Day edition of the *Chicago Times* in 1890, tells of the evolution—or, rather, the revolution—of worship. It relates to the teeth, and connects itself with Christian progress.—EDITOR.]

We learn from the pages old and worn
That Romans feared their gods,
And prayed and bowed from eve till morn
Beneath their wands and rods.
These deities the Romans firmly thought
Were angry, or furious and mad,
Unless tributes were gathered and brought
To cheer and make them glad.
Their gods possessed specific powers,
And ruled without reserve;
They stood within the archy towers
And watched the sinners serve.
Those were days of fear and strife,
And doubt was the ruler, sure—
When sin was firm and vice was rife,
And jewels proved to lure.
Gold and silver and precious stones
Were tokens of good cheer.
The sufferer offered them in prayers of groans,
And trembled in the fear.
Old god Charon, of the river Styx,
And ferryman of the souls,
Had power the seal of doom to affix,
And to collect all heavenly tolls.
This old god the Romans feared
He was dental inspector at death.
If the teeth with gold were well veneered
He bequeathed eternal breath.
But if the mouth was without the gold
He'd refuse to admit the dead—
And unchain his boat and loudly scold,
"Get to darkness and to dread!"
How different now!—by Christ's kind hand
The other shore we reach.
He quells the waves of the Styx strand;
'Tis calm upon the beach.
Now Love is king and Fear is lost;
In joy we seek the end.
Our pilot's kind, the trip's without cost;
He's our servant and sacred friend.
How grand the change from fret and fear!
With idolatry sacrificed,
We lay our dead—the noble, the dear—
In the lap of a loving Christ.

A DENTIST OWNS THE LEE-GRANT PENS

By B. J. C.

There are many famed pens, but the one used by Gen. Lee in surrendering the confederate cause is, indeed, a keepsake. The government and innumerable private museums have hoped to get this memorable pen, but the dentist who owns it holds fast to the quill and steel.

The two pens that ended the civil war now repose in a strong box in the home of Dr. F. P. Cronkite, a dentist of St. Joseph, Mo. They are still wrapped in a piece of paper taken from the table on which the Appomattox surrender papers were signed.

The pens came to Dr. Cronkite from Mrs. A. B. Lawrence, of Warsaw, N. Y., after the death of her husband, Col. Lawrence, who was an indefatigable collector. Dr. Cronkite's father was an officer in the 1st New York dragoons, of which Col. Lawrence was lieutenant-colonel. Col. Lawrence at the time of the surrender was chief quartermaster of the federal forces at Appomattox.

Col. Lawrence left this statement about his acquisition of the souvenirs:

The pens in this box, one quill, the other steel, marked at the time April 10, 1865, are the ones used in signing the Gen. R. E. Lee surrender papers in the Col. Wilmer McLean house, where the surrender took place, at Appomattox Courthouse, Virginia, April 9, 1865, and were given to me in the McLean house April 10, 1865, with a piece of the table on which Gen. Lee signed the surrender dictated by Gen. Grant. . . . The ragged piece of paper in which the pens are wrapped was part of a larger piece on the table on which the surrender papers were written.

This May or memorial number has an item worthy of regard, as your editor wrote to Dr. Cronkite, and received the following reply:

ST. JOSEPH, MO., March 3, 1914.

MY DEAR DR. CIGRAND: Your esteemed favor of Feb. 18th was duly received and contents considered. I beg to say in reply that I do not think much of this sort of publicity. It is true that I own the pens referred to in your letter, and some other more or less valuable relics. I will be pleased to



R E Lee

send you a description of them, with photographs, when I have time to get the memoranda together.

As I have had no incident occur in my busy professional career that would be of the slightest interest to any of your readers, and as my dear old dad tried hard to forget his military experience as soon as possible, and left no written data connected therewith, I could not give you a story that would be authentic. Hence my delay in replying.

I was much pleased with your publication, and enclose a dollar, for which please send me *THE AMERICAN DENTAL JOURNAL* for a year. Yours very truly,
F. P. CRONKITE.

Thank you, Dr. Cronkite. I am glad you are pleased with *THE AMERICAN DENTAL JOURNAL*. I am eager to make it interesting and profitable.

One point I observe regarding the table. It was on this table that the first confederate battle (Bull Run) was planned. Strange, peculiar and remarkable that on it was signed the papers which closed that dreadful civil war!

What of Dental Caries?

Against the theory that caries is in great part caused by the use of sticky fermentable food-stuffs made from wheaten flour, an objection is sometimes raised by pointing to the practical immunity from caries of the Hindus, a people mainly subsisting upon boiled rice. This diet, according to a writer in the *Near East*, is quite as sticky as bread made from modern flour. He believes—in agreement with the opinion of a well-known traveler quoted in this journal some time ago—that the Hindu wards off caries simply by his own exertions—in habits of greater oral cleanliness. “Every Hindu, high or low, habitually uses an improvised tooth brush consisting of a piece of soft wood, the extremity of which is chewed and then thrust between the interstices of his teeth, preventing the lodgment there of particles of food.”

It is easy to believe that after a meal composed entirely of soft food a Hindu could chew a piece of spicy wood with sufficient enjoyment to help greatly in cleansing the teeth; but if he habitually “thrusts the stick between the interstices of his teeth” without injuring the soft tissues, it is only because he has acquired the niceties of that art by long and patient practice.

MICRO-ORGANISMS IN THE MOUTH

BY JOHN S. ENGS.

While it is quite true that pathogenic micro-organisms are the cause of such diseases as diphtheria, typhoid fever, scarlet fever, tuberculosis, influenza and pneumonia, which find lurking and breeding places in the cavities of decayed teeth (and between them) in unclean mouths, we must bear in mind that they only present pathogenic activities when the tone of the



body has been lowered. As is well known, these micro organisms are always present in greater or less numbers. But, because the healthy body offers a bar to their freedom of growth, no evil results follow unless that bar is removed, which probably is brought about in no better way than by digestive disturbances causing non-assimilation of food; or by auto-intoxications,

the result of intestinal fermentations induced by a poorly balanced ration unsuited to the daily needs of the individual. Poor teeth are directly instrumental in promoting non-assimilation of foods, particularly starches, because they give pain to the individual when used, and thus encourage disuse, and consequent improper mastication and admixture with saliva. The food is swallowed too soon, and the glycogenic action of the saliva is checked. Incomplete mastication also tends to lengthen the period necessary to digest food, and thus favors the growth of organisms likely to start undesirable fermentation in the intestinal tract.

So I think that the menace of dental decay is more one from which malnutrition may arise than one having its being in the presence of micro-organisms. In other words, if we properly nourish the body we have little to fear from pathogenic bacteria in the mouth.

TOOTH BRUSHES AND THEIR CARE

BY DR. W. A. EVANS

[I know of no implement, tool or appliance which receives such careless attention and is exposed to so much insect contact as the tooth brush.—
EDITOR.]

In the spring of 1913 Dr. Anglemire, then a contagion inspector in Chicago, now health officer of Saugatuck, Mich., was sleuthing an epidemic of diphtheria in a Jewish orphan asylum. He caught Abe C. spreading the disease. Abe was innocent of wrong intent. His sore throat was just an ordinary everyday sore throat so far as ordinary appearances went; but cultures from his throat showed that the cause of his ordinary sore throat was diphtheria bacillus.

Dr. Anglemire had had several years of sanitary training; so he stuck to the trail. In the boys' toilet room he found the tooth brushes of 100 boys arranged in regular order. It was decided to make a culture from Abe's tooth brush. Diphtheria bacillus were found.

In the meanwhile cultures from the throats of every child

in the school had been made. Diphtheria was found in the throats of twenty. Investigating, it was found that the twenty tooth brushes nearest Abe's belonged to the twenty boys whose throats harbored bacteria bacilli. Cultures showed that there were diphtheria bacilli in twelve of these brushes.

Maybe the brushes gave the disease to the boys, and maybe the boys gave the disease to the brushes. Dr. Anglemire thought the infected brushes, being so closely bunched, was proof on the brushes. In addition, Dr. Anglemire thought "in the bristles of the brush were the media and moisture, and the steam-heated room had the proper temperature for bacterial growth." He recommended the following method for caring for tooth brushes (the method would be a good one for your tooth brush and mine):

"A simple, hygienic method of keeping a tooth brush would be, first, to keep it clean and free from debris; boil it occasionally; or, better yet, sterilize it. An easy way of doing this would be to procure a one-quart jar, or a glass candy jar; cut a piece of blotting paper to fit in the bottom of the jar. About once a week saturate the blotting paper with a teaspoonful of formalin; place brush inside, bristle ends up. By this means you can have a sterile and sweet-smelling tooth brush.

"There appears to be another advantage in this. As formalin is a tissue hardener, it will be found that the slight traces present upon the bristles deposited by the fumes will abort easy bleeding gums. The brushes should be rinsed after taking them from the jar, as too much formalin would be harmful. It is also possible that the presence of a small quantity of formalin upon the brush each day may be a deterrent to the terrific onslaughts of pyorrhoea alveolaris, from which most everyone suffers."

Etiology of Phosphor-Necrosis

Prof. Ralph Stockman says that cario-necrosis of the jaw is not due to a specific action of phosphorus fumes, but to a microbic infection. This conclusion is drawn from a study of individual cases, he having analyzed the pus from six cases of

phosphor-necrosis. The bacillus tuberculosis is the active cause of the disease. A proof of the tuberculous nature of the jaw disease is to be found by looking through the accounts of post-mortem examinations of fatal cases. In most cases death occurs from tuberculosis of the lungs. Whether this is due to infection from the jaw tubercle, or whether the phosphorus fumes damage the lungs and make them more susceptible to direct infection, he is unable to say. General tuberculosis is also not uncommon, while tubercle of the abdominal glands, tuberculous ulcers from infection by swallowing the pus, abscess in the brain, purulent pleurisy and tuberculous meningitis, are all occasional causes of death. Hectic fever and emaciation always accompany fatal cases. _____

Treatment of Burns with Pure Carbolic Acid

Dr. J. L. Muench thus gives the rationale of the treatment of burns with pure carbolic acid: "Externally carbolic acid acts as an escharotic when applied in the pure state, combining with the tissues and destroying them. Strange to say, however, its action on a burned surface as an escharotic is neutralized by the albuminous effusion becoming coagulated, and local anæsthesia of peripheral nerves takes place. The general result on burns treated with carbolic acid is that there is complete exclusion of air and coagulation of the serous effusions, and the healing process takes place with much less suffering and in a shorter time than by any other method."

Metals and Microbes

[Your editor has for nine years been experimenting on tin and cadmium, and finds they destroy oral bacteria. Read this and experiment.—EDITOR.]

Experiment seems to show that there are certain metals which are capable of destroying microbes that come in contact with them.

The microbes experimented with were cultivated for the purpose in jelly spread on a plate, and pieces of metal were dropped upon the jelly while it was still moist.

Any metal that had the property of arresting the develop-

ment of the microbes destroyed them not only just under the place where it lay, but for a narrow space around it. The width of this space varied both with the kind of metal and the kind of microbe.

Pure gold, when freely cleaned and burnished, had no effect upon the microbes. Pure nickel and platinum and a few other metals also failed to affect the organisms. But cadmium, copper, brass, zinc and silver destroyed them—the first named metal, especially, acting quickly and effectively.

It has been observed that the metals that affected the microbes were those that are readily attacked by chemical reagents; while those that resist such reagents, like gold, had no effect. From this fact it has been concluded that the action upon the organisms is due to a solution of the metals taking place in the jelly.

MY DOGGIE'S CLEAN TEETH

BY BURGESS JOHNSON

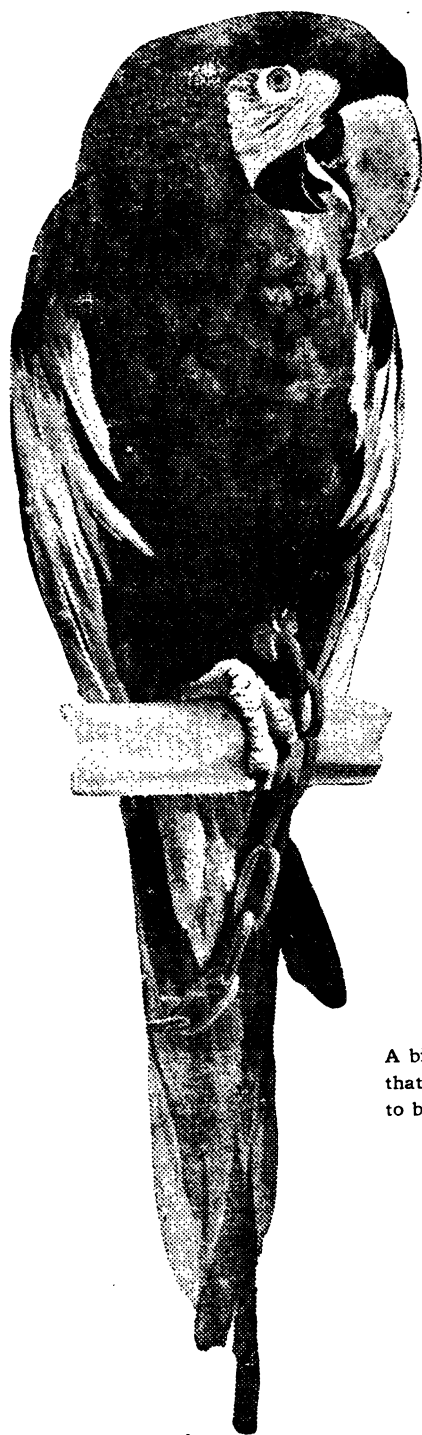
[This little poem will interest the children of the dentist or his little patients. Oral hygiene is on the extension.—EDITOR.]

They're at me all the day;
There's not an hour between!
I have no times for play—
I scarce know what they mean:
For all my time is taken up in being gotten clean.

They start to brush and scrub
When first my clothes I don;
All day they comb and rub,
And brush my teeth anon;
At five o'clock I have a bath while company looks on.

Now, Fido! Don't leave this spot
Until I've gotten through!
The things that hurt a lot
Are what is best for you—
I guess what's good for baby boys is good for doggies, too.

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Gold Cylinders, per oz.....	26.50	18K Gold Wire, per dwt.....	.98
14K Solder, per dwt.....	.65	20K Gold Wire, per dwt.....	1.00
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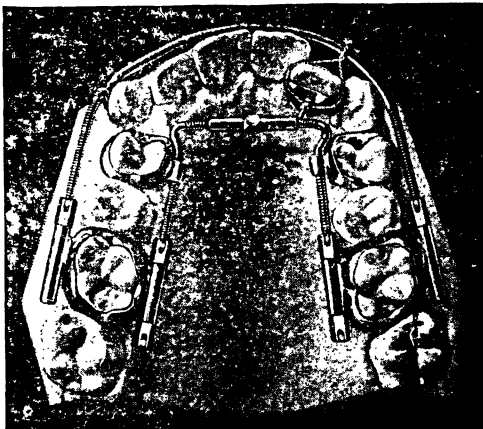
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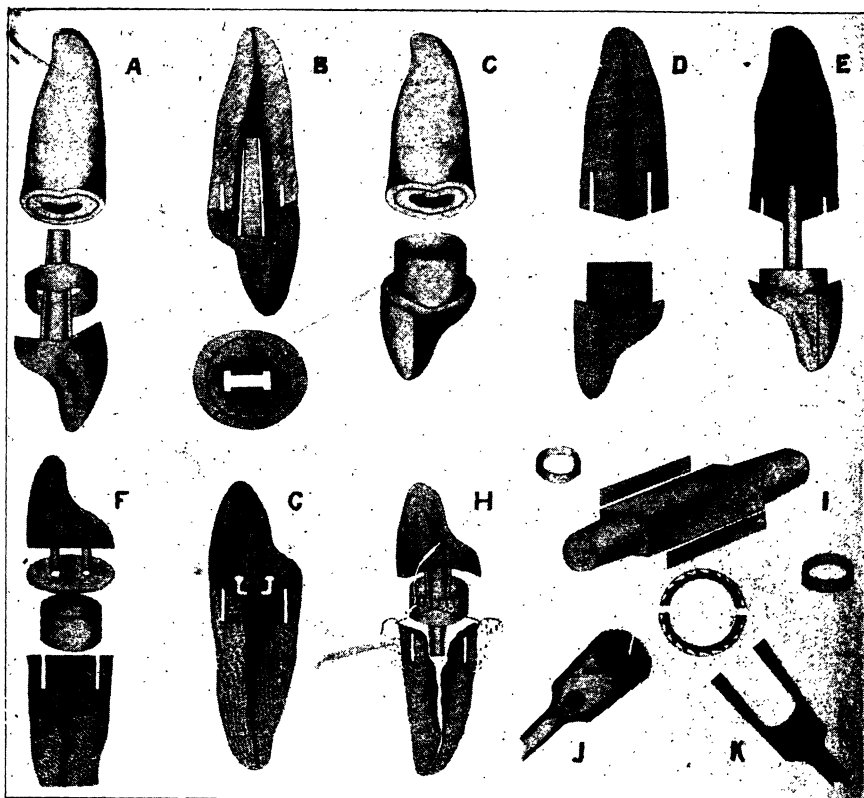
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By Dr. B. J. Cigrand



The above engraving illustrates the several uses of the Intra-Dental Band, as given in a clinic at the Tenth Anniversary celebration of the Odontographic Society of Chicago. Papers on this method were read at the Tri-Union Dental Meeting (Maryland, Washington, D. C., and Virginia) at Baltimore, June 3, 1898. Papers and clinics given at Illinois and Iowa State and Dental Societies.

Figs. A and B—Logan Crown, with Intra-Dental Band.

Figs. C and D—New crown, with band acting as a post.

Fig. E—Richmond crown, with Intra-Dental Band.

Figs. F and G—New porcelain crown, held by Intra-Dental Band.

Fig. H—Badly decayed root, with Intra-Dental Band.

Fig. I—Gauge-mandrel and complementary bands

Figs. J and K—New trephine for preparing and trimming roots.

Figs. L, J and K—Instruments for constructing Intra-Dental Band.

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Vol. XXXII

SEPTEMBER, 1912

No. 9

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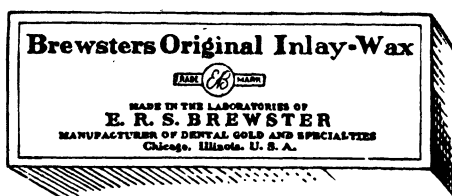
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